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ABSTRACT

This study investigated significant predictors of anxiety and depression in Taiwanese secondary students and the different functions of these predictors. Surveys were completed by 1,672 senior high school students in Taiwan. As part of a larger study, these students completed the Secondary Student Questionnaire (SSQ), an instrument developed by the investigators for the study that included anxiety and depression items from the short version of the Hopkins Symptom Checklist. Of 14 potential predictors measured by the SSQ, 7 were significantly correlated with anxiety and depression: gender, grade, monthly family income, mother's occupation, parenting practices, personality/satisfaction, and self-esteem total score. Academic school level was not significantly correlated with students' anxiety and depression. The self-esteem total score loaded first and explained 37.7% of the variance. The second strongest predictor was gender (2.6%), the third, mother's occupation (0.5%), and the fourth was parenting practices (0.4%). Together, these four accounted for 41.1% of the variance in total scores for anxiety and depression. More research will be required to determine if traditional Chinese values about academic performance are changing in Taiwan. (Contains 21 references.) (SLD)

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Predictors of Anxiety and Depression in Taiwanese Secondary Students

Objective Purpose

This study investigated significant predictors of anxiety and depression in Taiwanese secondary students, as well as the different functions of these predictors.

Theoretical Framework

Taiwanese adolescents. Traditionally, Chinese culture reflects values in the socialization experience of youth that differ substantially from Western cultures. Life-long obligations exist between parents and children, and filial pity or respect under grids this process. Diligence and hard work are promoted in order to attain economic improvement and raise family social status. This perspective was strongly influenced by the Confucian concept of " nothing is more important than study." Virtually all parents, teachers, and students likely believe that academic performance is the most important thing for all students. If a student has outstanding academic performance then all family members will be proud of her or him. In contrast, if a student fails academically, then others, including the student him or herself, will be very disappointed; some of these students could exhibit behavioral or psychological problems, for instance, anxiety, depression, withdrawal from school, antisocial behavior, suicide, drug dependence, alcohol abuse, juvenile delinquency, etc. Indeed, Cheng and Page (1989) found that Taiwanese high school students' anxiety and

depression are related to self-esteem and their academic performance.

Anxiety. Kelly (1955) asserted that anxiety is an emotional response resulting when a person perceives an experience as inconsistent or discrepant with his or her self-structure and its introjected conditions of worth. Rogers (1959) believed that a threat exists when people recognize an incongruity between their self-concept and some aspect of actual experience.

Anxiety is a significant problem at the elementary school level. Research reveals that at least 11% of elementary students experience severe communication anxiety, an additional 20% may experience enough anxiety to warrant some sort of intervention (e.g., Garrison & Garrison, 1979; Harris, 1980). Numerous studies have investigated student anxiety and self-esteem (e.g., Huang, 1993; Metz, 1993). Results show that anxiety may also have a negative relationship to several factors related to student esteem (e.g., academic achievement, gender, peer relationships, personality characteristics, family factors).

Some authors have claimed that boys experience more anxiety and conflict in childhood, while girls experience more in adolescence (e.g., Douvan, 1979; Gove & Herb, 1974). During their elementary years, students are encouraged to compete for grades, and they are rewarded for successful achievements. While males continue to receive such messages, female adolescents are confronted with conditional sex-role

restraints which inhibit their academic achievement by encouraging them to pursue values such as femininity , modesty, dependence, and marriage ability (Douvan, 1979). Such sex-role mandates may create conflicts for female adolescents, manifested in an increased incidence of psychological stress (Douvan, 1979).

Depression. Depression as an affect is a ubiquitous and universal condition ranging on a continuum from normal mood swings to a pathological state (Zung, 1974). Depressive symptoms usually include dysphoric mood; appetite and sleep disturbance; loss of interest or pleasure; loss of energy; feelings of worthlessness, hopelessness, or guilt; difficulty thinking; and thoughts of death (Weissman, 1986).

Epidemiological studies demonstrate that depression has a greater prevalence and incidence than generally expected. Klerman estimated that one American out of every eight will suffer depression sometime during her or his life (cited in Brand, 1972). Lehmann (1971) estimated the prevalence of depression at 3-4% of the general population. Some community surveys show that from 20 to 30 percent of adult women experience major depression at some point in their lives (Boyd et al., 1982; Weissman et al., 1982).

Depression is generally associated with low self-esteem (Workman & Beer, 1989). Individuals with low self-esteem tend to express self-hatred, psychosomatic symptoms, feelings of depression and distress (Coopersmith, 1967).

Ehrenberg et al.'s (1990) cross-cultural depression study (1990) found a gender effect such that more females than males were in mildly and clinically depressed groups. Although this relationship was not significant in the early adolescent age group, it was significant in the middle and late adolescent groups.

Research questions. Two major research questions were:1) What factors are significant predictors of Taiwanese senior high school students' anxiety and depression? 2) Do these significant predictors function differently for anxiety and depression?

Methods

Participants and setting

This study took place in Kaohsiung city in southern Taiwan, selected because of its representativeness of the total population structure of Taiwan. A total of 1672 senior high students (779 boys, 893 girls) at the $10/11^{th}$ grade level from 2 high academic, 4 moderate academic and 4 low academic level senior high schools were surveyed. In Taiwan, education for elementary and junior high school aged children is compulsory, that is, a free public education is provided for nine years (six years in elementary school, three years in junior high school). After graduating from junior high, students are required to take annual senior high school entrance examinations. Scores on these exams determine which academic level of schools students may enter.

Procedure

A stratified random sampling strategy was used to select 3 groups of senior high schools, stratified by academic performance: high academic performance ($n = 2$), moderate academic performance($n = 4$), and low academic performance ($n = 4$). Because there are only 2 high academic schools in Kaohsiung city, both were included. Next, two classrooms from each grade level at each school were randomly selected.

The first author explained the purpose of the study and administered the survey in each classroom. Only 52 students declined to participate (97% response rate).

The first author conducted individual 30-minute, follow- up interviews with 6 randomly selected students to verify the validity of their survey responses. Two students from each of the academic levels of schools were interviewed to assess their reactions to and understanding of survey items.

Instrumentation

Secondary Student Questionnaire. As part of a larger study, students completed the Secondary Student Questionnaire (SSQ), a 114-item investigator-developed questionnaire. Ten items assess students' anxiety, and 15 items measure depression. The SSQ also elicits respondent demographics (age, gender, academic achievement (GPA), parents' educational level, what degree level students hope to attain, what degree level their parents hope they attain, monthly family income, parents'

occupation, and parenting practices); self-esteem; and personality and satisfaction with non-academic performance. The SSQ was piloted with 79 students to ensure internal consistency reliability and content validity.

Anxiety and depression items are drawn from the short version of the Hopkins Symptom Checklist (HSCL-25). The HSCL-25 has good demonstrated internal consistency (Cronbach's alphas of 0.84 for anxiety and 0.88 for depression), and test-retest reliability coefficients over a 1-week internal were 0.75 for the anxiety scale, and 0.81 for the depression scale (Derogatis et al., 1974). Scores are summed for each variable, and higher scores indicate greater anxiety and depression. The items are responded to on a 4-point, Likert type scale (0 = Not At All, 1 = A Little, 2 = Quite a Bit, 3 = Extremely).

Data analyses

Data analyses included:

(1) Calculated percentages, means, and standard deviations for SSQ items.

(2) Nonparametric Spearman correlations to examine variables significantly related to anxiety and depression total scores.

(3) Stepwise regressions to determine significant predictors of anxiety and depression total scores.

(4) Independent mean comparison t-test, one-way analyses (ANOVA) and Bonferroni

post hoc comparisons were conducted on significant predictors to determine whether differences existed among students' anxiety and depression scores.

Results

The mean score for the total sample for anxiety was 9.0 (n = 1631, SD =5.56; Range: 0 to 30). The mean score for depression was 13.58 (n = 1641, SD = 7.74; Range: 0 to 45).

Correlation with anxiety and depression scores. Of 14 potential predictors measured by the SSQ, 7 were significantly correlated with anxiety and depression: gender, grade, monthly family income, mother's occupation, parenting practices, personality/satisfaction, and self-esteem total score. Significant correlations ranged from r =.06 (p =.02- mother's occupation) to r =-.61(p =.00 - self-esteem total scores). Academic school level was not significantly correlated with students' anxiety and depression scores.

Significant predictors of anxiety and depression. Variables were entered into stepwise regressions in a pre-specified order. Results revealed the self-esteem total score loaded first and explained 37.7% of the variance. The second strongest predictor was gender, which explained 2.6% of the variance. The third strongest predictor was mother's occupation, which explained 0.5% of the variance. The fourth significant predictor was parenting practices, which explained another 0.4% of

the variance. These four together accounted for 41.1% of the variance in senior high school students' anxiety and depression total scores.

Different functions of significant predictors. Two independent mean comparison t-test analyses, and two one-way ANOVAs were conducted to examine the functions of significant predictors for anxiety and depression scores. The results of t-test analyses indicated that girls' anxiety and depression total scores were significantly higher than boys'; and, students from homes with authoritarian/punitive parenting practices had significantly higher anxiety and depression scores than students from homes with permission parenting practice.

The result of one-way ANOVA revealed that students with low self-esteem scores had the highest anxiety and depression total scores, followed by students with moderate and high self-esteem scores. A Bonferroni post hoc test found that the differences among the three self-esteem groups were significant.

The results of one-way ANOVA revealed a significant main effect for mother's occupational level. Students whose mothers had low occupations (e.g., worker, former) had the lowest mean scores, followed by students whose mothers had moderate occupations (e.g., public servant, teacher), and high occupations (e.g., lawyer, doctor). However, the Bonferonni test was not significant.

Educational Contribution

Limitations

While the present design controls for confounding variables, self-report inventories are susceptible to deception, social desirability and response sets (Kleinmuntz, 1982). Triangulation, using different data sources (e.g., parents' ratings, teachers' ratings), is strongly recommended. Also, the interviews support the SSQ's validity; but only 6 students were interviewed. Finally, no test-retest reliability data were obtained in this study.

Research recommendations

Surprisingly, academic level was not a significant predictor of students' anxiety and depression. Perhaps other factors have a stronger influence. More research is needed to determine whether traditional Chinese values regarding academic performance are changing in Taiwan.

Future studies should investigate cross sections of students (e.g., elementary, junior, senior high, and college students) to determine developmental differences in anxiety and depression. Researchers also should attempt to replicate the present findings using other anxiety and depression measures. Cross-validation of the SSQ with ratings by parents, teachers, etc., would be informative.

Differences in levels of anxiety and depression due to self-esteem, gender, parenting practices, and mother's occupation are intriguing and warrant further

investigation. Perhaps these factors play a *buffering role* against experiences that prompt anxiety and depression. This hypothesis should be tested in future studies. Finally, qualitative research such as interviews with students, teachers, and parents would provide a richer picture of the nature and impact of students' anxiety and depression in Taiwan.

References

Boyd, J. H., Weissman, M. M., & Thompson, W. D. (1982). Screening for depression in a community sample. *Arch Gen Psychiatry, 39*, 1195-1204.

Brand, D. (1972). Beyond the blues. *Wall Street Journal, 1*, April 7.

Cheng, H. P., & Page, R. (1989). The relationship among sex, academic performance, anxiety, and self-esteem of junior high school students in Taiwan. *Journal of Multicultural Counseling and Development, 17*, 123-133.

Coopersmith, S. (1967). *The antecedents of self-esteem.* San Francisco: W. H. Freeman.

Derogatis, L. R., Lopman, R. S., Rickels, K., Uhlenhuth, E. H., & Covi, L. (1974). The Hopkins Symptom Checklist. In P. Pichot (Ed.)., *Psychological measurements in psychopharmacology: Modern problems in pharmacopsychitary, 7* (pp.79-110). Karger: Basel, Switzerland.

Douvan, E. (1979). Sex Role Learning. In: J. Coleman (Ed.), *The school years.* London: Methuen.

Ehrenberg, M. F., Cox, D. N., & Koopman, R. F. (1990). The prevalence of depression in high school students. *Adolescence, 100*, 905-912.

Garrison, J. P. & Garrison, K. R. (1979). Measurement of communication apprehension among children: A factor in the development of basic speech

skills. *Communication Education, 28*, 119-128.

Gove, W. R., & Herb, T. R. (1974). Stress and mental illness among the young: A comparison of the sexes. *Social Forces, 53*, 256-265.

Harris, K. R. (1980). The sustained effects of cognitive modification and informed teachers on children's communication apprehension. *Communication Quarterly, 28*, 47-56.

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Kelly, G. A. (1955). *The psychology of personal constructs.* New York: W. W. Norton & Company Inc.

Kleinmuntz, B. (1982). *Personality and psychological assessment.* New York: St. Martin's Press.

Lehmann, H. E. (1971). *Epidemiology of depressive disorders: in five depression in the 70's.* Excerpta medica: Amsterdam.

Metz, E. D. (1993). The camouflaged at-risk student: White and Wealthy. *Momtum, 24(2)*, 40-44.

Rogers, C. R. (1959). A theory of therapy, personality, and interpersonal relationships, as developed in the Client-Centered Framework. In S. Koch (Ed.), *Psychology: A study of a science* (pp. 184-256). New York: McGraw-Hill.

Weissman, M. M., Kidd, K. K., & Prusoff, B. A. (1982). Variability in the rates of affective disorders in the relatives of severe and mild major nonbipolar depressive and normals. *Arch Gen Psychiatry, 39,* 1397-1403.

Weissman, M. M. (1986). Being young and female: risk factors for major depression. In G. L. Klerman (Ed.). *Suicide and depression among adolescents and young adults.* Washington D. C.: American Psychiatric Press, Inc..

Workman, M., & Beer, J. (1989). Self-esteem, depression, and alcohol dependency among high school students. *Psychological Reports, 65,* 451-455.

Zung, W. W. (1974). The measurement of affects: Depression and anxiety. In P. Pichot (Eds.), *Psychological measurements in psychopharmacology: Modern problems of pharmacopsychiatry* (pp170-180). Basel: Karger.

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